

REMARKS/ARGUMENTS

Claims 1-28 have been cancelled from the application without prejudice. New claims 29-47 have been added to the application.

The rejections raised in the Office Action are addressed as follows.

Claim rejections under 35 U.S.C. 103

The Examiner rejected claims 1-3, 7, 8, 10, 15-17 and 24-28 under 35 U.S.C. 103(a) in view of U.S. Patent No. 6,697,276 (Pereira et al.) and Admission. In response, claims 1-28 have been cancelled from the application. New claims 29-47 have been added to the application for the Examiner's consideration, of which claims 29, 39 and 43 are independent. Applicant submits that new claims 29, 39 and 43 are not obvious in view of Pereira and Admission.

Claim 29 is directed to a content addressable memory having both ternary and binary cells connected to rows of matchlines, where each matchline is precharged to a voltage level corresponding to a miss condition. Matchline sense amplifiers are connected to each of the matchlines for detecting one of the miss condition and a match condition in response to search data. Matchline sensing is supported in commonly owned U.S. Patent No. 6,584,003, which is incorporated by reference.

Applicant submits that claim 29 is not obvious in view of Pereira et al. and Admission. Pereira et al. does not disclose or teach matchlines precharged to a voltage level corresponding to a miss condition, where each matchline of the row has ternary and binary CAM cells connected to it. Furthermore, Pereira et al. does not disclose or teach matchline sense amplifiers for detecting either the miss condition or a match condition. While Pereira et al. states that a row can have both binary and ternary CAM cells, Pereira et al. does not explicitly state the configuration of a row. For example, Pereira et al. may be referring to a logical row having two matchlines, where only binary cells are connected to one matchline and only ternary cells are connected to the other matchline. In view of this ambiguity, Applicant submits that Pereira et al. does not teach or disclose a single matchline having both ternary and binary cells, where the binary cells are smaller in size than the ternary cells.

Claim 39 is directed to a content addressable memory having rows of first and second matchlines precharged to a miss voltage level corresponding to a miss condition, where ternary cells are connected to the first matchlines and binary cells are connected to the

second matchlines. Searchlines are connected to the ternary cells of the first rows and the binary cells of the second rows, and matchline sense amplifiers are connected to each of the first matchlines and the second matchlines for detecting one of the miss condition and a match condition in response to search data on the searchlines.

Applicant submits that claim 39 is not obvious in view of Pereira et al. and Admission. Pereira et al. does not disclose or teach matchlines precharged to a voltage level corresponding to a miss condition, where ternary cells are connected to first matchlines and binary cells are connected to second matchlines. Furthermore, Pereira et al. does not teach or disclose searchlines connected to the ternary cells of the first matchlines and to the binary cells of the second matchlines, and matchline sense amplifiers for detecting either the miss condition or a match condition of the first and second matchlines.

Claim 43 is directed to a method for searching a content addressable memory having rows of a first type of content addressable memory cells and rows of a second type of content addressable memory (CAM) cells. The method includes coupling search data to both the first and second type of CAM cells, disabling matchline sense circuits coupled to rows of the second type of CAM cells, and then sensing matchlines corresponding to the rows of the first type of CAM cells in response to the search data. The method of claim 43 is supported in paragraph [0039] of the present description.

Applicant submits that claim 43 is not obvious in view of Pereira et al. and Admission. Pereira et al. does not disclose a method of searching a content addressable memory (CAM) having rows of a first type of CAM cells and rows of a second type of CAM cells, where matchline sense circuits connected to the second type of CAM cells is disabled while matchlines connected to the first type of CAM cells are sensed in response to search data.

Therefore, Applicant submits that claims 29-47 are not obvious in view of Pereira et al. and Admission, and withdrawal of the Examiner's rejection under 35 U.S.C. 103 is respectfully requested.

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Amdt. dated May 29, 2007
Reply to Office Action dated November 28, 2006

The Commissioner is hereby authorized to charge any additional fees, and credit any over payments to Deposit Account No. 501593, in the name of Borden Ladner Gervais LLP.

Respectfully submitted,

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